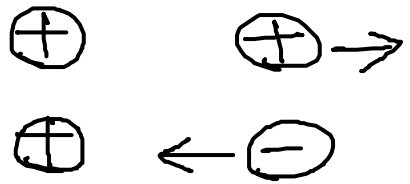
Physics

* Coulomb's Law



$$F = \frac{1}{4\pi\epsilon_0}\frac{q_1 q_2}{r^2}$$

only value, -ve not allowed

একক

Force, $F \rightarrow N$

charge, $q \rightarrow C$

Coulomb's cons., $k \rightarrow Nm^2/C^2$

* (1) Figure Analysis

(2) [illegible]...

(3) $F_{xNet} = ?$ $\rightarrow +F_1 - F_{2x} - F_{3x}$

$= F_1 - F_2\cos\theta - F_3\sin\theta$

$F_{yNet} = ?$ $\rightarrow +F_{2y} - F_{3y}$

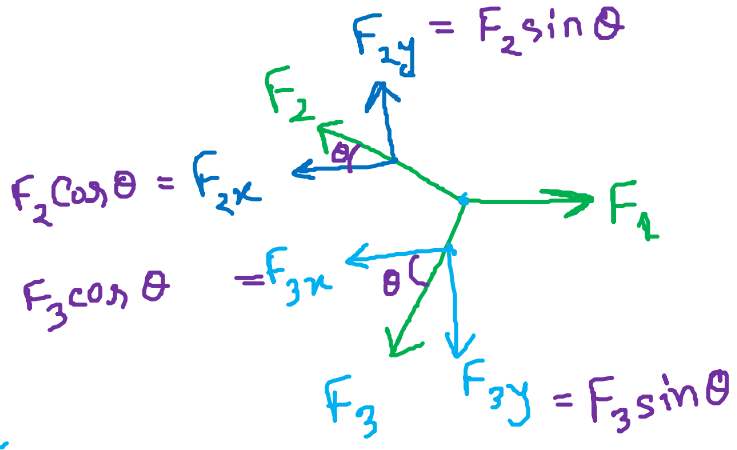
$= F_2\sin\theta - F_3\sin\theta$

$F = \frac{1}{4\pi\varepsilon_0}\frac{q_1 q_2}{r^2}$

(4) $F_{Net} = \sqrt{F_{xNet}^2 + F_{yNet}^2}$

(5) $\theta = \tan^{-1}\frac{F_{yNet}}{F_{xNet}}$ ← '-ve' allowed

→ $\pm 180^\circ$



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